REMARKS

Reconsideration of the rejections set forth in the Office Action dated September, 2003 is respectfully requested. Applicants petition the Commissioner for a 1-month extension of time. A separate petition accompanies this amendment. Claims 19-21 are currently under examination.

I. Amendments

Claim 19 is amended to recite a method of injecting a sample plug, where the composition of sample components in the sample plug reflects the composition of sample components in the sample. Basis for this amendment can be found on page 3, lines 23-25 and 30-35.

Each of the terms "supply," "sample," and "first" were used in claim 19. Each term is used equivalently, however, Applicants have amended claims 19 and 20 for consistent terminology.

II. Rejections under 35 U.S.C. §§102(a) and 102(b)

Claim 19 was rejected under 35 U.S.C. §102(b) as allegedly anticipated by Verheggen *et al.* (1988) *Journal of Chromatography*, Vol. 452, pp. 615-622.

These rejection is respectfully traversed for the following reasons.

A. The Present Invention

The invention describes a method of injecting a sample plug into an electrolyte channel in a microfluidics device. The method comprises the steps of (i) placing a sample having a composition of sample components in a sample channel that intersects the electrolyte channel at a supply port, (ii) injecting the sample from the sample channel along a pathway by applying an electric field across the sample channel and a drain channel to form the sample plug in the electrolyte channel, the pathway comprising the supply port, a drain port intersecting the electrolyte channel at a location axially spaced from the supply port, and a segment of the electrolyte channel between the two ports, the sample plug having said composition of sample components, and (iii) electrokinetically moving the sample plug along the electrolyte

channel by applying an electric field across a reservoir for an electrolyte buffer and a drain at an opposite end of the electrolyte channel.

B. The Prior Art

VERHEGGEN ET AL. describe a sampling device for capillary isotachophoresis and capillary zone electrophoresis whereby the most essential feature of this device is the direct introduction of the sample solution into a part of the capillary tube by means of two feeders which extend perpendicular to the capillary tube. The arrangement of the two feeders off-set from each other along the longitudinal extension of the capillary tube is such that the sampling device has the shape of a capillary double T structure.

C. Analysis

According to the M.P.E.P. § 2131, "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference".

Verheggen *et al.* first fail to teach injecting a sample plug into an electrolyte channel, where the sample plug has a composition of sample components that reflects the composition of sample components in the sample. On page 622, Verheggen et al. describes sampling by electromigration, however, "it can clearly be seen that no representative sample aliquot was introduced" (page 622, lines 16-18).

Verheggen *et al.* further fail to teach a method of injecting a sample plug into an electrolyte channel including applying an electric field across the supply channel and a drain channel. As seen in Figure 1, Verheggen *et al.* include an electrode compartment at each end of the capillary tube where the electrolyte solution in the channel contacts the electrodes. The apparatus further includes a measuring electrode positioned in the capillary tube. With this configuration, an electric field can only be applied across the capillary tube (electrolyte channel) and not across the supply and drain channels as presently claimed.

On page 622, Verheggen *et al.* describe experiments performed with the

device shown in Fig. 1, "[i]n a third experiment (Fig. 3c) the sampling was carried out by electromigration, a dilute sample of $5 \cdot 10^{-5}$ M flowing through the SD for 30 s with application of an electrical current." However, as noted above, the application of an electrical current can only be applied across the capillary tube and not the across the supply and drain channels.

Accordingly, as the cited reference fails to teach "each and every element as set forth in the claim," Applicants respectfully request withdrawal of the rejection under 35 U.S.C. §102(b).

Conclusion

In view of the above, Applicants submit that the pending claims are in condition for allowance. A Notice of Allowance is, therefore, respectfully requested.

If in the opinion of the Examiner a telephone conference would expedite the prosecution of the subject application, the Examiner is encouraged to call the undersigned at (650) 838-4410.

Respectfully submitted,

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Date: May 10, 2004

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